



# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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CONSTRUCTION PERMIT-NESHAP Source -- REVISED

PERMITTEE

H. Kramer & Company  
Attn: Randall K. Weil  
1339-59 West 21st Street  
Chicago, Illinois 60608

Application No.: 11110045

Applicant's Designation: Baghouses

Subject: South Foundry Baghouses

Date Issued: July 31, 2013

Location: 1339-59 West 21st Street, Chicago, Cook County, 60608

I.D. No.: 031600AGL

Date Received: May 8, 2013

This permit is hereby granted to the above-designated Permittee to CONSTRUCT air pollution control equipment consisting of two (2) new baghouse systems (North Baghouse and South Baghouse) to control particulate matter emissions from Rotary Furnaces #1 and #2, respectively, and fugitive emissions from the South Foundry Building with each of the two systems to include a spark arrester, two dust collector modules, two after filter boxes with HEPA filters, two fans, and one stack, pursuant to the above-referenced application. The two new baghouse systems will replace existing Baghouses #1, #2, #5, and #6. This permit is subject to standard conditions attached hereto and the following special condition(s):

1. This permit is based on the construction and testing of the two new baghouse systems resulting in no increase in process weight rate or emissions to the atmosphere.
2. The two new baghouse systems can be operated under this construction permit until January 31, 2014.
3. This permit is issued based on the potential to emit (PTE) for hazardous air pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs, or such less quantity as USEPA may establish by rule which would require the Permittee to obtain a Clean Air Act Permit Program (CAAPP) permit from the Illinois EPA.
- 4a. All furnace melting operations at this source are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Nonferrous Metals Processing Area Sources, 40 CFR Part 63 Subparts A and TTTTTT. The Illinois EPA is administering the NESHAP in Illinois on behalf of the United States EPA under a delegation agreement.
- b. Pursuant to 40 CFR 63.11465(a), the Permittee shall route the emissions from each existing affected source through a fabric filter or baghouse that achieves a particulate matter (PM) control efficiency of at least 99.0 percent or an outlet PM concentration limit of 0.034 grams per dry

standard cubic meter (g/dscm) (0.015 grains per dry standard cubic feet (gr/dscf)).

- c. The Permittee shall comply with the applicable testing, monitoring, notification, and recordkeeping requirements in 40 CFR Part 63 Subparts A and TTTTTT.
5. Emissions and operation of the following equipment shall not exceed the following limits:

<u>Item of Equipment</u>	Process Weight	Particulate Matter	
	Rate (Tons/Hour)	Emissions (Lbs/Hour)	(Tons/Year)
Rotary Furnace #1	2.1	3.77	16.5
Rotary Furnace #2	2.5	4.18	18.3

  

<u>Natural Gas Combustion Emissions</u>	Nitrogen Oxides		Carbon Monoxide	
	(Lbs/Hr)	(Tons/Yr)	(Lbs/Hr)	(Tons/Yr)
Rotary Furnace #1 (11.5 mmBtu/hr)	1.15	5.04	0.97	4.23
Rotary Furnace #2 (20.8 mmBtu/hr)	2.08	9.11	1.74	7.65

These limits are based on the maximum process rates and firing rates indicated by the Permittee, continuous operation (8,760 hours/year), standard emission factors for fuel combustion (AP-42) and allowable particulate matter in 35 Ill. Adm. Code 212.321 as this is more restrictive than the 0.015 gr/dscf limit required by 40 CFR 63.11465(a). Compliance with annual limits shall be determined from a running total of 12 months of data.

- 6a. Pursuant to 35 Ill. Adm. Code 212.301 the Permittee shall not cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible to an observer looking generally toward the zenith at a point beyond the property line of the source.
- b. Pursuant to 35 Ill. Adm. Code 212.321, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).
- c. The Permittee shall operate the source in such a way that the opacity of emissions does not exceed the limits specified in 35 Ill. Adm. Code 212.123.
7. Pursuant to 35 Ill. Adm. Code 216.121, no person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air.

8a. Within 180 days after initial startup of each of the two new baghouse systems, PM, PM<sub>10</sub>, and metals emissions, and opacity from the exhaust of each of the two new baghouse systems shall be measured during conditions which are representative of maximum operating conditions and maximum emissions. The maximum emissions condition shall include testing during operation with only one of the two dust collector modules in each of the baghouse systems in operation (representing one possible worst case situation with the other dust collector module in each baghouse system shut down for repair or maintenance).

b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA. Refer to 40 CFR Part 60 Appendix A and 40 CFR Part 63 Subparts A and TTTTTT for USEPA test methods.

Location of Sample Points	USEPA Method 1 or 1A;
Gas Flow and Velocity	USEPA Method 2, 2A, 2C, 2F, or 2G;
Flue Gas Weight	USEPA Method 3, 3A, or 3B;
Moisture	USEPA Method 4;
Particulate Matter	USEPA Method 5;
PM <sub>10</sub>	USEPA Method 201 or 201A; USEPA Method 5 may be substituted provided all emissions are considered PM <sub>10</sub>
Condensable PM <sub>10</sub>	USEPA Method 202 (condensable);
Opacity	USEPA Method 9 or 22 (if no visible emissions are observed for 90 percent of the readings over 1 hour); and
Metals	USEPA Method 29(excluding Hg)

c. At least 60 days prior to the actual date of testing, the Permittee shall submit a written test plan to the Illinois EPA, Compliance Section. This plan shall include at a minimum:

- i. The name (or other identification) and location of the emission points to be tested and the name and address of the facility at which they are located;
- ii. The name and address of the independent testing service(s) who will be performing the tests, with their experience with similar tests;
- iii. The specific determinations of emissions and/or performance which are intended to be made, including the site(s) in the ductwork or stacks at which sampling will occur;
- iv. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions, minimum control performance, the levels of operating parameters for the emission units, including associated control equipment, at or within which

- compliance is intended to be shown, and the means by which the operating parameters will be determined;
- v. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods. The specific sampling, analytical and quality control procedures which will be used, with an identification of the standard methods upon which they are based;
  - vi. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justifications;
  - vii. Any proposed use of an alternative test method, with detailed justification; and
  - viii. The format and content of the Source Test Report.
- d. The Permittee shall provide the Illinois EPA with written notification of testing at least thirty (30) days prior to testing to enable the Illinois EPA to have an observer present. This notification shall include the name and location of emission points to be tested, scheduled date and time, and contact person with telephone number.
  - e. If testing is delayed, the Permittee shall promptly notify the Illinois EPA by facsimile, at least 5 days prior to the scheduled date of testing or immediately, if the delay occurs in the 5 days prior to the scheduled date. This notification shall also include the new date and time for testing, if set, or a separate notification shall be sent with this information when it is set.
  - f. The Permittee shall submit the Final Source Test Report(s) for these tests accompanied by a cover letter stating whether or not compliance was shown, to the Illinois EPA without delay, within 30 days after the test results are compiled, but no later than 60 days after the final date of sampling. The Final Source Test Report shall include at a minimum:
    - i. General information describing the test, including the name, location, and identification of the emission source which was tested, date of testing, name of testing service and names of personnel performing the tests, and Illinois EPA/USEPA observers, if any;
    - ii. A summary of results;
    - iii. Detailed description of test procedures and method(s), including description and map of emission units and of sampling points, sampling train, testing and analysis equipment, and test schedule;
    - iv. Detailed description of test conditions, including:

- A. List and description of the equipment (including serial numbers or other equipment specific identifiers) tested and process information (i.e., mode(s) of operation, process rate, fuel or raw material consumption rate, and heat content of the fuels);
  - B. Control equipment information (i.e., equipment condition and operating parameters) during testing; and
  - C. A discussion of any preparatory actions taken (i.e., inspections, maintenance and repair).
- v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration. Identification of the applicable regulatory standards and permit conditions that the testing was performed to demonstrate compliance with, a comparison of the test results to the applicable regulatory standards and permit conditions, and a statement whether the test(s) demonstrated compliance with the applicable standards and permit conditions;
- vi. An explanation of any discrepancies among individual tests, failed tests or anomalous data.
- vii. The results and discussion of all quality control evaluation data, including a copy of all quality control data; and
- viii. The applicable operating parameters of the pollution control device(s) during testing (temperature, pressure drop, scrubbing flow rate, etc.), if any, during testing.
- g. Satisfactory completion of this test so as to demonstrate compliance with applicable emission standards is a prerequisite to issuance of a revised operating permit, pursuant to 35 Ill. Adm. Code 201.160.
- 9a. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic inspections and maintenance on the equipment covered under this permit such that the equipment is kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.
- b. Pollution control devices shall be in operation at all times when the associated emission unit(s) is in operation and emitting air contaminants.
10. a. The Permittee shall install, operate, and maintain a bag leak detection system ("BLDS") for the outlet of the baghouse in each control system. The BLDS should be designed and operated as referenced in 40 CFR 63.11468(c)(1).
- b. The Permittee shall develop and maintain onsite a monitoring plan as referenced in 40 CFR 63.11468(c)(2). The Permittee shall take

corrective actions for the baghouses as referenced in 40 CFR 63.11468(c)(3). The Permittee shall also keep all records as referenced in 40 CFR 63.11470(a)(2), including records related to the operation of the BLDS and the operation of the baghouses relative to the BLDS.

- c. The baghouse and the HEPA filter in each control system shall be equipped and operated with continuous operational monitoring for the pressure drop across the device, which both measure this information and record this information at least every 15 minutes.
  - d. The motors powering fans in each control system shall be equipped and operated with continuous operational monitoring for each variable speed motor and instrumentation for each fixed speed motor for the amperage of the motors. If the information from this instrumentation is not continuously monitored, as provided above, measured data shall be recorded at least twice during each heat, at least once during charging and once during tapping.
11. The Permittee shall maintain the following records during the operation of the rotary furnaces and associated baghouses and HEPA filters under the authority of this Construction Permit:
- a. A file containing the following information for the baghouses and HEPA filters in each control system, with supporting documentation:
    - i. The design capacity (scfm) and performance of the device (outlet PM concentration, in gr/dscf or mg/dscm), as specified by the manufacturer;
    - ii. The operating procedures for each device recommended by the manufacturer, including recommended range of pressure drop, maximum operating temperature, and, for the baghouses, practices for cleaning of bags; and
    - iii. The maintenance and inspection procedures recommended by the manufacturer.
  - b. An operating log or other records for each rotary furnace that at a minimum, contains the following for each batch of material or heat processed in a furnace:
    - i. Amount of raw material charged (tons) and description of raw materials processed, i.e., (Estimated percentage of different components, in the raw materials, e.g., vehicle radiators, water meters, manufacturing byproducts and miscellaneous scrap).
    - ii. Start time and duration of the heat (hours);

- iii. Final batch size (tons), product type or grade, and lead content (percent by weight); and
- iv. Average charge rate per batch based on amount charged divided by batch time (Tons/hr).
- c. Records of the following information for the rotary furnaces:
  - i. Total metal production (tons/month and tons/year); and
  - ii. Total natural gas usage (scf/month and scf/year);
- d. An operating log or other records for each control system that, at a minimum, includes the following information for each heat in a rotary furnace:
  - i. Information confirming that the capture system operated properly, including proper settings for dampers in the ductwork during different phases of the heat;
  - ii. Information confirming that the baghouse operated properly; and
  - iii. Information confirming that the HEPA filter operated properly.
- e. An inspection and maintenance log or other records for each control system, that, at a minimum, include:
  - i. Inspection data:
    - A. Date and time of inspection;
    - B. Identification of personnel that performed each inspection;
    - C. Observed condition of control equipment; and
    - D. Recommendations based on inspection;
  - ii. Maintenance and repairs records, including replacement of filters:
    - A. Dates maintenance and repairs were initiated and completed;
    - B. Identification of personnel that performed each maintenance and repairs;
    - C. Reason for maintenance or repair, e.g., regularly scheduled preventive maintenance or activity to respond to observed defect; and

- D. Description of the maintenance and repairs.
- f. A log or other records for malfunction and breakdown for the rotary furnaces and associated control equipment. At a minimum, these records shall include:
  - i. Date and duration of malfunction or breakdown;
  - ii. A full and detailed description of the malfunction or breakdown, with likely cause of the malfunction or breakdown;
  - iii. The effect of the malfunction or breakdown on emissions and, if applicable emission limits may have been exceeded, an estimate of the quantity of additional emissions, with supporting analysis;
  - iv. The measures used to reduce the quantity of emissions and the duration of the malfunction or breakdown; and
  - v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.
- g. Records related to emissions of the rotary furnaces that contain the following information:
  - i. A file for each rotary furnace that contains the allowable emission rate of 35 Ill. Adm. Code 212.321 for each batch based on the average charge rate determined in condition 11(b)(iv), with supporting documentation.
  - ii. A file that contains calculations for the maximum emissions of PM, and lead from the rotary furnaces, in pounds/hour, when operating at their maximum rates, with supporting documentation, which shall be updated as necessary to kept accurate and true; and
  - iii. Records of emissions of PM, NOx, CO, and lead (tons/month and tons/year), with supporting calculations.
- 12. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
- 13a. If a malfunction or breakdown of the rotary furnaces or associated control system occurs, the Permittee shall notify the Illinois EPA's



Air Compliance Section and Regional Office in writing by electronic mail or facsimile by 10:00 a.m. of the next business day. This notification shall include the date and duration of the incident and a brief description of the incident and need not include a copy of the detailed records required by Condition 11(f).

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016  
Facsimile No. 847/294-4018  
Email: Emilio.salis@illinois.gov

- b. If there is an exceedance of or deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance/deviation. The report shall include any emissions released as a result of the deviation, a copy of relevant records, a description of the exceedance or deviation, the causes and efforts to reduce emissions, deviations and future occurrences.
14. One (1) copy of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Field Operation Section  
9511 West Harrison  
Des Plaines, Illinois 60016

and one (1) copy shall be sent to the Illinois EPA's Source Monitoring Unit at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Source Monitoring Unit  
9511 West Harrison  
Des Plaines, Illinois 60016

In addition to a hard copy submitted according to this condition, the notifications required by Condition 8, above, shall be submitted via electronic mail to Ray.Pilapil@Illinois.gov and Kevin.Mattison@Illinois.gov.

The source shall apply for a revised operating permit after the construction and testing are successfully completed in accordance with the construction permit. This information must be submitted in triplicate and should reference the application and I.D. numbers assigned above.

This permit has been revised to provide additional time for performing testing and to submit an application for a revised Operating Permit as requested by the Permittee.

If you have any questions on this permit, please contact Valeriy Brodsky at 217/785-1705.



Robert W. Bernoteit  
Acting Manager, Permit Section  
Division of Air Pollution Control

Date Signed:

7-31-2013

RWB:VJB:jws

cc: Region 1  
Ray Pilapil, Compliance Section  
Chris Pressnall, DLC